Title Page

Magic Cat-Cademy

Where felines and magic meet!

Hadlee Bullerwell

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Copyright Information

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The Game Design Document (GDD) it the blueprint from which a computer or video game is to be built. As such, every single detail necessary to build the game must be addressed in the document (or support documents). If it’s not in the document, then it probably won’t be in the game.

Below you will find an outline for a generic Game Design Document. The problem is that no generic GDD will be able to address all the various genres for which a game may be created. For example, consider the games PacMan, SimCity and Doom. All three games required detailed design documents, but if you think about it, those documents would be entirely different! As such, when using the outline below you will find sections that will be totally meaningless to your game. But also, there will be sections that your GDD requires to describe the game. Just because it’s not in my outline, it doesn’t mean that it doesn’t belong.

The GDD is a reference document. Members of the development team will constantly be using the document to find specific information for their specific needs. Consider the size such a document may grow to in order to document every piece of the game. We don’t want the GDD to cause information overload and then become a prop under somebody’s wobbly desk. As such it is important that you organize and format the document to make it easy to use. Also note that some of these sections might not appear in the GDD itself but instead would appear in supplemental documents such as an Art Bible or Test Plan. This helps make the overall document more manageable and readable.

One last comment, a game design document is meant to be a living document. Just as when the artist changes the design of his painting every time he takes his brush to the canvas, a computer or video game evolves as code and art are created. The GDD then is the communication tool from which all the members of the team can follow that evolution.

**Document Revision history:**

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# Section I - Game Overview

## Game Concept

“Magic Cat-Cademy” invites players into the mesmerizing land of Felandia where magic and danger coexist. Embark on a heroic quest alongside Lucy, a gray and black tabby cat, to rescue her feline companions from the clutches of the menacing hellhounds. As you navigate through the levels, Lucy’s magical abilities become the key to overcoming hardships, unveiling a captivating adventure, and forging new friendships. This game blends the charm of a magical world and strategic gameplay, creating an immersive experience that draws in players of any age.

Gear up for an exciting adventure with Lucy, where every step of the journey unravels the power of her magical abilities. “Magic Cat-Cademy” promises an engaging adventure where players will venture through the land of Felandia and rescue it from the devious hellhounds. Prepare for an immersive experience that draws you in and captivates you as each moment unfolds a new chapter for the land of Felandia.

## Design History

This is a living document and will change as you develop your game. This section maintains a history of any significant changes to your game.

## Genre

Magic Cat-Cademy is a fantasy adventure game. Plus, you will also find lots of cats, so if cat was a genre, Magic Cat-Cademy would be in it!

## Target Audience

Anyone can play Magic Cat-Cademy, but people who are fans of cats and exciting adventures will find a joy while playing it!

## Game Flow Summary

How does the player move through the game? Both through framing interface and the game itself.

### Game Flow

The player progresses through the game by level. They must try to defeat the hellhounds as quickly as they can in order to not get swarmed by the rest spawning. You must dodge the attacks of the hellhounds, avoid the fire, and defeat the boss at the end of the level to complete it.

### Framing Interface

When you enter the game, you will find yourself on the main menu. You will have three options, start playing, viewing controls, or quitting. Once you are in the game, you can start to play, but if you need to pause it, you will press ‘P’. Then to quit (restarts the game) you will press ‘Q’.

## Look and Feel

What is the basic look and feel of the game? What is the visual style?

### Art Style

* Vibrant colours
* Pixel art
* Cartoony style, unrealistic

### Character Design

* The main characters are all cats. Each cat has a different look to them, such as tabby patterns, plain white, calico, and more.
* Enemies are all hellhounds; they all have a distinct look to them.

### Environment

* Cozy Meadows – A very relaxing area with fields of flowers and grass. Since being taken over by hellhounds, it hasn’t been quite as cozy, covered in fire and magma. There are hills everywhere, with oak trees sprinkled in every so often.
* Scorching Savannah – A savannah with some areas desert-like and some more forestry. Some areas are closer to being a desert, but some areas have savannah trees everywhere. It gets very hot in the savannah, as the sun shines brighter and stronger in the savannah.
* Tropical Rainforest – A rainforest with many tall trees. It is littered with forestry foliage, bushes and more, the perfect biome to get lost in. You must traverse the difficult terrain to escape. There are many rivers, lakes, and ponds throughout the forest.

## Project Scope

A summary of the scope of the game.

### Number of locations

There are three locations which will be separated by level. The first level is in the meadow, the second level is in the desert, and lastly in the rainforest. Each location is diverse, with different obstacles which you must avoid, along with the hellhounds.

### Number of levels

There are three levels in the game. Each of them has a different terrain and obstacles for you to get past. All levels include the basic hellhounds, but each level has a different hellhound boss for you to defeat.

### Number of NPC’s

The hellhounds and the feline rulers are the only NPCs in the game. There are 4 different hellhounds, the basic, Mars (weakest ruler), Juno (second ruler), and lastly Cerberus (final boss). For the feline rulers, there is Sierra (brown tabby), Nova (white bobtail), and lastly Karma (calico).

### Number of weapons

There are not many weapons in the game, other than the characters magic abilities. Lucy and Nova wield a magic wand to cast their spells, but other than that the rest of them can just summon their magic.

# Section II - Gameplay and Mechanics

## Gameplay

### Game Progression

There are three levels to the game, each progressing in difficulty. To complete each level, you must defeat the ending boss and rescue the designated feline friend from the clutches of the hellhound bosses. You must do this without losing all of your lives.

### Mission/challenge Structure

As said, there are levels which progress in difficulty as you go through them. You must dodge the attacks of the hellhounds and avoid any obstacles in the terrain. Each level ends with a boss, progressing in difficulty for each level.

### Puzzle Structure

The puzzles will increase in difficulty, as the hellhounds will become more powerful as you play. You must collect the powerups and use your magic to defeat them. Each boss increases in difficulty as each of them have different abilities which get more powerful.

### Objectives – What are the objectives of the game?

The objective is to defeat all the hellhounds, rescue each of the Felandia rulers, and restore the land back to its original state. You must complete this without losing all of your lives.

### Play Flow – How does the game flow for the game player

As you play, you will traverse through a level, after so long, you will come upon the boss. Once defeated, you will be able to move on to the next level. Upon dying, you will be automatically brought back to the beginning of the level, unless you lost all of your lives.

## Mechanics

What are the rules to the game, both implicit and explicit. This is the model of the universe that the game works under. Think of it as a simulation of a world, how do all the pieces interact? This actually can be a very large section.

### Physics

How does the physical universe work?

### Movement

#### General Movement

It is a side-scroller game, so you can only move left or right. You can either use ‘A’ or the left arrow key to move left. You can use the ‘D’ key or the right arrow key to move right. The last movement you will need to do is jump, which will be done with the spacebar.

#### Other Movement

Enemies will be autopilot, so they will move automatically. Theu will always be locked in your position, so wherever you move they follow.

### Objects

#### Picking Up Objects

The only objects that there are powerups which will be dropped every so often after killing hellhounds. They will be a shield with immunity, lower firing rate, stronger magic, and faster cooldown on firing magic.

#### Moving Objects

When you fire magic, the magic will go just in a straight line from where it was fired. This will also be the case for the hellhounds who can shoot fireballs, they will just be fired in a straight line.

### Actions

#### Picking Up, Carrying and Dropping

You will only be able to pick up powerups, those are the only things that will be dropped as well. The powerups can be dropped every so often upon defeating a hellhound.

#### Talking

I may add some dialogue at the end of each level once you rescue the rulers from the hellhound boss.

#### Reading

You will have to read the dialogue yourself; it won’t be read to you.

### Combat

If there is combat or even conflict, how is this specifically modeled?

#### Enemy Combat

For the hellhound minions, they will always latch on to your position and follow you until they reach you. If you run into the hellhound, it will deal damage. Every few seconds, the hellhound closest to you will perform an attack which you must avoid.

For the hellhound bosses at the end of each level, it will be similar to the hellhound minions, except they all have unique abilities. Every few seconds they will use their attack (firing fireballs, summoning fire, etc.) and you must avoid it.

#### Player Combat

Lucy uses her magic wand to fire light at the hellhounds. She can change the height of the magic if she jumps whilst firing.

## Screen Flow

### Screen Flow Chart

A graphical description of how each screen is related to every other

### Screen Descriptions

What is the purpose of each screen?

#### Main Menu Screen

Upon loading, you will have the name of the game across the top in a fantasy-style font. Underneath, you will see the option to play, select a level, and then options. I will have a solid colour filling the background. The colours and fonts, such as purples, browns, blues, and more, will represent the magic aspect of the game.

#### Options Screen

In the options screen, you will be able to adjust the volume to whatever level you prefer.

#### Select a Level Screen

On this screen, you will be able to select which level you want to play. Each level will only be unlocked upon beating the previous level.

## Replaying and Saving

### Replaying

Upon dying, you will restart the level that you are on. If you have completed a level, you do not need to complete it again unless you choose to.

### Saving

There is no save function in the game. If you quit, you must restart from the beginning.

## Cheats and Easter Eggs

The only easter egg, is upon clicking a button on the keyboard you will be able to make Lucy (main cat) meow.

# Section III – Story, Setting and Character

## Story and Narrative

Specific details like scripts and cut scenes may not be in this document but be in the Story Bible.

### Back story

The land of Felandia was once peaceful and calm, until the hellhounds attacked. Lucy, a gray tabby cat, is a past student of the Magic Cat-Cademy, an academy that trains the felines of Felandia to use magic. Some of the previous students of the academy, who are also the rulers of the three biomes of Felandia have been taken by the ferocious hellhounds. It is now up to Lucy to rescue them, and bring Felandia back to the way it previously was!

### Game Progression

You progress through the game through levels. There are three levels, located in each of Felandia’s most populated biomes. You must defeat the three hellhound leaders at the end of each level to progress.

## Game World

### General look and feel of world

Each level has a very distinct look. All the biomes have different obstacles, and appearances to make them unique. Felandia is a very distinct landscape and varies in biomes. There are other biomes in Felandia, but there are three which are the largest and most populated.

### Area #1

#### General Description

A relaxing and cozy meadow filled with flower fields, and grass. It is a very calming environment, where many cats go to snooze.

#### Physical Characteristics

There are many hills and large oak trees where cats will lay under after a hard day. It is not as relaxing these days, as it has been taken over by the hellhounds.

#### Levels that use area

The first level takes place in the cozy meadows.

### Area #2

#### General Description

A scorching hot savannah, only meant for the cats with the shortest hair. It gets very hot in the savannah, as the sun shines brighter and stronger every day.

#### Physical Characteristics

Most areas have lots of sand representing a desert, where other areas have large savannah trees and grassy grounds.

#### Levels that use area

The second level takes place in the scorching savannah.

### Area #3

#### General Description

A humid, wet terrain is this tropical rainforest. This is the perfect biome to get lost in.

#### Physical Characteristics

There are many tall trees in the rainforest, and a whole lot of forestry, foliage, bushes and so much more. The forest has many lakes, ponds, rivers, so prepare to go for a swim!

#### Levels that use area

The third, and final level takes place in the tropical rainforest.

## Characters

### Character #1 - Lucy

#### Back story

A tabby cat who attended the magical cat academy, Magic Cat-Cademy. During her studies, she learned many types of magic and has continued practicing following her years of studying.

#### Personality

She is a fearless, determined, and ambitious cat. She would do anything to protect her companions.

#### Look

##### Physical characteristics

Lucy is a gray and black tabby cat with a long tail.

##### Animations

Lucy will have many animations, such as an idle animation, walking animation, jumping animation, magic animation, and a hurt animation.

#### Special Abilities

Her main type of magic is working with a wand, casting spells of different kinds. She can shoot fireballs, magic beams, and light from her wand. As time moves, her magic abilities will grow, and she will gain more stamina to be quicker and more efficient.

#### Relevance to game story

Lucy is the main character who you play as. She is the hero of the game and is in charge of rescuing the land of Felandia from destruction.

#### Relationship to other characters

Lucy knew each of the feline rulers from the academy. Sierra, a cat who is a few years older than her was a mentor at the academy. Nova was a assistant to the professors at the academy, and often assisted in Lucy’s classes. Lastly, Karma, she is the eldest of the leaders, and is a professor at the academy, and taught Lucy in her time there.

### Character #2 - Sierra

#### Back story

A brown tabby cat, who attended the academy with Lucy, and is a few years older than her. She rules over the cozy meadows and keeps the land in a calming state.

#### Personality

She is known to be skittish, but that does not stop her from being one the most powerful, caring and dedicated rulers of the bunch.

#### Look

##### Physical characteristics

Sierra is a brown tabby cat with a white patch on her chest.

##### Animations

Sierra won’t have as many animations as Lucy does, but she will have a walking animation, a jumping animation, and an idle animation.

#### Special Abilities

Her powers focus mostly on upping her physical power. Such as making herself move quicker, for longer periods of time and also upping her physical strength and making herself stronger.

#### Relevance to game story

One of the three rulers who need rescuing at the end of each level. She becomes a helpful ally to Lucy.

#### Relationship to other characters

Sierra knows all of the rulers similarly to Lucy. She mentored Lucy at the academy, was in the class that Nova mentored, and was taught by Professor Karma.

### Character #3 - Nova

#### Back story

A white cat, who lost her tail in a battle with some hellhounds during her time at the academy while on a quest.

#### Personality

She is a very helpful cat. She always is open to assist whenever anyone needs help. She is a compassionate cat with love for everyone.

#### Look

##### Physical characteristics

Nova is a fully white cat with a bobtail.

##### Animations

Nova has many animations she will have a walking animation, a jumping animation, and an idle animation.

#### Special Abilities

Her powers are similar to Lucy’s as she also uses a magical wand to attack. She can spawn different types of light and darkness from the wand. She was one of the most powerful cats in her classes.

#### Relevance to game story

One of the three rulers who need rescuing at the end of each level. She becomes a helpful ally to Lucy.

#### Relationship to other characters

Nova mentored both Sierra and Lucy during their time at the academy. She was a student of Karma’s in her first-year teaching. She has since been assisting her at the academy.

### Character #4 - Karma

#### Back story

A calico cat, who has been around for many years. She attended the academy many years ago and has since taught for them.

#### Personality

She is very wise and has a lot of knowledge to share. She loves her students and always wants them to succeed.

#### Look

##### Physical characteristics

Karma is a calico cat with many black and orange patches. She has a very long tail.

##### Animations

Karma has many animations she will have a walking animation, a jumping animation, and an idle animation.

#### Special Abilities

Her powers focus on spawning water. Although she is a cat, she does enjoy water. She is one of the strongest water magicians in Felandia, and taught water magic at the academy.

#### Relevance to game story

One of the three rulers who need rescuing at the end of each level. She becomes a helpful ally to Lucy.

#### Relationship to other characters

Karma has taught all three of our other characters. She became someone who Sierra and Lucy looked up to. Nova became her assistant at the academy after she graduated.

# Section IV – Levels

## Level #1

### Synopsis

The first level of the game introduces you to the hellhound minions and their attacks. You must defeat the hellhounds or get past them to reach the end of the level. Upon reaching the end, you will meet Mars, the lowest of the rulers of the hellhounds. To rescue the feline ruler of the meadow, you must defeat him and rescue Sierra from him. Once you defeat him, you will gain a new ally and move on.

### Introductory Material (Cut scene? Mission briefing?)

You see a level name and description show up upon reaching the level.

### Objectives

* Defeating the hellhounds
* Reaching the end without losing all three of your lives
* Defeat Mars
* Rescue Sierra from Mars

### Physical Description

This level is located in the cozy meadows. It is a long meadow full of flowers, hills, trees, and other obstacles which you must avoid.

### Encounters

You will encounter hellhound minions for the first part, and at the end you will encounter Mars.

### Closing Material

When you complete the level, you will rescue Sierra, and make your way to the next level.

# Section V - Interface

## Visual System

### HUD - What controls

The HUD will contain the number of lives you have left, your health, and the cooldown for your magic. When you reach the boss, you will see a boss health bar as well.

### Menus

You will only have the main menu, which will have the option to play, view the controls, and finally quit the game.

### Camera

It will be a side view, as the game is a side scroller.

## Control System

How does the game player control the game? What are the specific commands?

### Main Controls

The main controls consist of A + D to move left and right, space bar to jump, left click to shoot magic, Q to quit, and P to pause.

## Audio

### Music

The music will be an adventurous soundtrack. The music will be very enchanting as to represent the magic element of the game. It will help you to feel more immersed into the game, and help you really feel like you are a part of this magical world.

When you reach each boss battle, the music will change to fit the scene.

### Sound Effects

#### Magic

It will have a different sound for each when using a magic ability. For Lucy/Nova, they fire using a wand, so there will be a magic shooting sound to fire. For Karma, she uses water magic, so there will be a water sound when she summons water. Sierra uses physical magic, so a power-up sound would play similar to one you would hear in Mario after receiving a mushroom. Lastly, the hellhound's magic will have a fireball sound upon spawning/breathing fire.

#### Entities

* Cats – As a little easter-egg, I will implement a meow button for the player to use. A key on the keyboard will be designated to make your player meow.
* Hellhounds – They will be able to bark and growl. It will be played upon attack.

# Section VI - Artificial Intelligence

## Opponent AI

The active opponent that plays against the game player and therefore requires strategic decision making (example, Civilization or Chess, how is it to be designed?

## Enemy AI

Hellhounds will continuously walk in your direction. They will always be locked on your position and make their way towards you to attack. If you go past them, they will turn and follow you.

Mars (the boss at the end of the level) is usually still and doesn’t move, but has 3 different attacks/moves to choose from. One, he can summon fire in your direction and you have to avoid it, two, he can jump into the air and avoid your magic, and three he can do a lunge attack where he runs at you, and then turns back to his original position.

## Friendly Characters

The only friendly character is the cat that you rescue at the end of each level. You will rescue them and then make your way to the next level with them.

## Support AI

### Player and Collision Detection

If you run into the hellhounds, or any obstacles around, you will take some damage. For any enemies who fire fireballs/summon fire, if it hits you will you take damage.

# Section VII – Technical

## Target Hardware and operating system

It is set to be played on a computer.

# Section VIII – Game Art

Only show concept art here (rough sketches)

## Concept Art

A cartoon dog with red eyes

Description automatically generatedA drawing of dogs with red and black outlines

Description automatically generatedA drawing of a cat and a hand

Description automatically generatedA cat with a stick

Description automatically generatedA drawing of a cat

Description automatically generatedA drawing of a cat

Description automatically generated

Concept Art of characters

A cartoon of a landscape

Description automatically generated with medium confidence

Concept art for terrain of biomes

## Style Guides

## Characters

A pixelated cat and a stick

Description automatically generatedA pixelated cat and a stick

Description automatically generatedA pixelated cat with white teeth

Description automatically generatedA pixel art of a cat

Description automatically generated

Nova Lucy Sierra Karma

Hellhound Minion Cerberus Juno

A red dog with a black background

Description automatically generatedA pixel art of a dog

Description automatically generatedA pixel art of a black dog with red horns

Description automatically generated

A pixelated red dog

Description automatically generated

Mars

## Environments

A cartoon of a grass field

Description automatically generated

Meadow

## Equipment

A pixelated cat and a stick

Description automatically generatedA pixelated cat and a stick

Description automatically generated

Magic wands